REMARKS/ARGUMENTS

Claims 1-18 are pending.

No new matter is added.

The obviousness rejection of Claims 1-10 and 16-18 as being unpatentable in view of Yoshida, Holubec and Matsuno is respectfully traversed.

Present Claim 1 is drawn to a traction drive fluid composition comprising a base oil (A) and at least one component (B). The base oil (A) is selected from hydrogenated products of the dimers of at least one alicyclic compound selected from among bicyclo [2, 2, 1]heptane ring-bearing compounds, bicyclo [3, 2, 1] octane ring-bearing compounds, bicyclo [2 2, 2] octane ring-bearing compounds, and bicyclo [3, 3, 0] octane ring-bearing compounds; and from cyclohexane ring-bearing compounds selected from the group consisting of 2,4-dicyclohexyl-2-methylpentane, 2,4-dicyclohexylpentane, 2,4-dicyclohexyl-2-methylbutane, and 1-decahydronaphthyl-1-cyclohexylethane. The at least one component (B) is selected from at least one polymer having a weight average molecular weight in the range of 8,000 to 40,000 and which is selected from the group consisting of (a) hydrocarbon polymers each comprising as a constituent at least 10 mole% of a monomer bearing a cyclic structure and (c) hydrogenated products from the polymers (a); wherein each of the hydrocarbon polymers (a) is a polymer of a monomer bearing a cyclic structure, or a copolymer of a monomer bearing a cyclic structure and an aliphatic monomer selected from the group consisting of ethylene, propylene, butene, pentene, hexene, heptene, octane, nonene and decene.

The Office has relied upon Yoshida to teach the base oil (A) of present Claim 1, but acknowledges that "Applicants' invention differs from Yoshida by adding component (B), a hydrocarbon polymer having a weight average molecular weight in the range of 8,000 to 40,000 which comprises as a constituent at least 10 mole% of a monomer bearing a cyclic

structure and hydrogenated products thereof, which acts as a viscosity index improver to the traction drive fluid" (see page 3 of the Official Action). The Office therefore relies upon Holubec and Matsuno to provide the at least one component (B) of present Claim 1 and the claims depending therefrom (see page 3 of the Official Action).

Applicants respectfully traverse the obviousness rejection on the basis of a superior and unexpected result. In a continuously variable transmission (CVT) vehicle, power is transferred from the engine by contact between to essentially smooth surfaces. Thus, a CVT is different from a conventional transmission, where power is transferred from the engine via toothed gears. The efficiency of the power transfer between the two surfaces of in a CVT is quantified by the traction coefficient. The higher the traction coefficient, the more efficient the power transfer. Lower traction coefficients result in lower mileage and, as a result, negatively impact the environment. The oil that lubricates the two surfaces (e.g., the base oil) can alter the traction coefficient.

In the cited art, addition of a viscosity index improver to a base oil results in lowering of the traction coefficient. For example, column 27, Table 3, in Matsuno is reproduced below:

TABLE 3

	Composition (Mass %)				Kinematic Viscosity at	Brookfield Viscosity at	
	Component (I)				100 °C	−40 °C	Traction
	Fluid 1	PMA	PIB	OCP	mm²/s	mPa·s	Coefficient
Fluid 5	91.0	9.0	—	—	5.0	360	0.038
Fluid 6	91.8	—	8.2	—	5.0	320	0.084
Fluid 7	96.7	—	—	3.3	5.0	360	0.084
Fluid 1	100	—	—	—	2.1	200	0.085

PMA: Number average molecular weight (Mn) of 18,000
PIB: Number average molecular weight (Mn) of 2,400
OCP: Number average molecular weight (Mn) of 9,000

In Table 3, Fluid 1, that does not have a viscosity index improver (e.g., no component D), has a traction coefficient of 0.085. In Fluids, 5-7, when a component D is added, in all cases, the traction coefficient drops (e.g., to 0.084 or to 0.079). At column 28, lines 1-4, Matsuno describes in part that "the viscosity at high temperatures can be significantly increased by mixing Component (D) without changing the traction coefficient and low temperature viscosity too much" (underlining emphasis added). Thus, Matsuno, in both tabular data and words, acknowledges that adding a viscosity index improver to a fluid (e.g., a base oil) lowers the traction coefficient of the fluid. Holubec and Yoshida do not contradict the teachings of Matsuno.

This phenomena of addition of a viscosity index improver to a base oil lowering the traction coefficient of the base oil is further demonstrated in the originally filed specification. Reference Example 1, of Table 1-1 at page 18 of the originally filed specification, which is a base oil that does not contain a viscosity improver, has a traction coefficient of 0.077. Comparative Example 3 of the originally filed specification adds a viscosity improver (e.g., an ethylene/propylene copolymer, not of the invention) to the base oil of Reference Example 1. As shown in Table 1-1, at page 18 of the originally filed specification, the addition of the viscosity improver results undesirably in a lowering of the traction coefficient from 0.077 to 0.074.

Accordingly, Applicants submit that one of ordinary skill in the art, based on the teachings of Matsuno, Holubec and Yoshida, would expect that addition of a viscosity improver to a base oil would undesirably lower the base oil's traction coefficient.

In contrast to this expectation, the addition of the component (B) to the base oil (A) of present Claim 1 does not lower the traction coefficient of the base oil (A), and in some cases, actually raises the traction coefficient. As shown in Examples 1-3 (of the invention) in Table

1-1 at page 18 of the originally filed specification, addition of a component (B) (of the invention) to the base oil of Reference Example 1 did not lower the traction coefficient, which remained at 0.077 in Examples 1-3. Additionally, in Example 4 (of the invention), in Table 1-2, page 19 of the originally filed specification, addition of a component (B) (of the invention) raised the traction coefficient of the base oil of Reference Example 2 from 0.070 to 0.071. Similarly, in Examples 7-8, addition components (B) (of the invention) also raised the traction coefficient of the base oil in Reference Example 2 from 0.070 to 0.077. Finally, as shown by Example 5-6, Table 1-2, page 19 of the originally filed specification, addition of components (B) of the invention to the base oil of Reference Example 2 did not lower the traction coefficient of the base oil.

Based on the teachings of Matsuno, Yoshida and Holubec, one of ordinary skill in the art would expect that addition of a viscosity index improver to a base oil would undesirably decrease the traction coefficient of the base oil. In contrast, addition of the component (B) to the base oil (A) of present Claim 1 does not decrease the traction coefficient of the base oil (A), and in some cases, increases the traction coefficient of the base oil (A). This superior result, based on the teachings of Matsuno, Yoshida and Holubec, is also an unexpected result. Applicants submit this superior and unexpected result is exactly the type of secondary consideration envisioned by the M.P.E.P. to address a *prima facie* case of obviousness. Withdrawal of the obviousness rejection is respectfully requested.

The obviousness rejection of Claims 1-10 and 16-18 as being unpatentable in view of Abe, Holubec and Matsuno is respectfully traversed. The Office, at page 4 of the Official Action, relies upon Abe to provide the base oil (A) of present Claim 1. The Office acknowledges that "Applicants' invention differs from Abe by adding component (B), a hydrocarbon polymer having a weight average molecular weight in the range of 8,000 to

40,000 which comprises as a constituent at least 10 mole% of a monomer bearing a cyclic structure and hydrogenated products thereof, which acts as a viscosity index improver to the traction drive fluid" (see pages 4-5 of the Official Action). The Office therefore relies upon Holubec and Matsuno to provide the at least one component (B) of present Claim 1 and the claims depending therefrom (see page 3 of the Official Action). As described above, based on the teachings of Holubec and Matsuno, one of ordinary skill in the art would expect that addition of a viscosity index improver to a base oil would undesirably decrease the traction coefficient of the base oil. Abe does not contradict the teachings of Holubec and Matsuno.

Further, as described above, addition of the component (B) to the base oil (A) of present Claim 1 does not lower the traction coefficient of the base oil (A), and in some cases, increases the traction coefficient of the base oil (A). This superior result, based on the teachings of Matsuno, Abe and Holubec, is also an unexpected result. Applicants submit this superior and unexpected result is exactly the type of secondary consideration envisioned by the M.P.E.P. to address a *prima facie* case of obviousness. Withdrawal of the obviousness rejection is respectfully requested.

The obviousness rejection of Claims 1-6 and 11-18 as being unpatentable in view of Murai, Holubec and Matsuno is respectfully traversed. The Office, at page 6 of the Official Action, relies upon Murai to provide the base oil (A) of present Claim 1. The Office acknowledges that "Applicants' invention differs from Murai by adding component (B), a hydrocarbon polymer having a weight average molecular weight in the range of 8,000 to 40,000 which comprises as a constituent at least 10 mole% of a monomer bearing a cyclic structure and hydrogenated products thereof, which acts as a viscosity index improver to the traction drive fluid" (see page 6 of the Official Action). The Office therefore relies upon

Holubec and Matsuno to provide the at least one component (B) of present Claim 1 and the claims depending therefrom (see pages 6-7 of the Official Action). As described above, based on the teachings of Holubec and Matsuno, one of ordinary skill in the art would expect that addition of a viscosity index improver to a base oil would undesirably decrease the traction coefficient of the base oil. Murai does not contradict the teachings of Holubec and Matsuno.

Further, as described above, addition of the component (B) to the base oil (A) of present Claim 1 does not decrease the traction coefficient of the base oil (A), and in some cases, increases the traction coefficient of the base oil (A). This superior result, based on the teachings of Matsuno, Murai and Holubec, is also an unexpected result. Applicants submit this superior and unexpected result is exactly the type of secondary consideration envisioned by the M.P.E.P. to address a *prima facie* case of obviousness. Withdrawal of the obviousness rejection is respectfully requested.

Applicants submit the present application is now in condition for allowance. Early notification to this effect is earnestly solicited.

Respectfully submitted,

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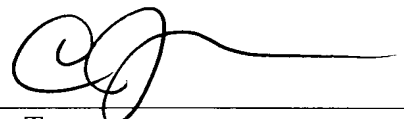

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